APPLN. FILING DATE: OCTOBER 6, 2003
TITLE: DNA PROBES, METHOD AND KIT FOR IDENTIFYING

ANTIBIOTIC-RESISTANT STRAIN OF BACTERIA

INVENTOR(S): REGINE HAKENBECK

ATTORNEY DOCKET NO: 012627-037 SHEET 1 of 37

Streptococcus pneumoniae PBP 2x

Mosaic Genes in Penicillin Resistant Strains

(codon 85 - 750)

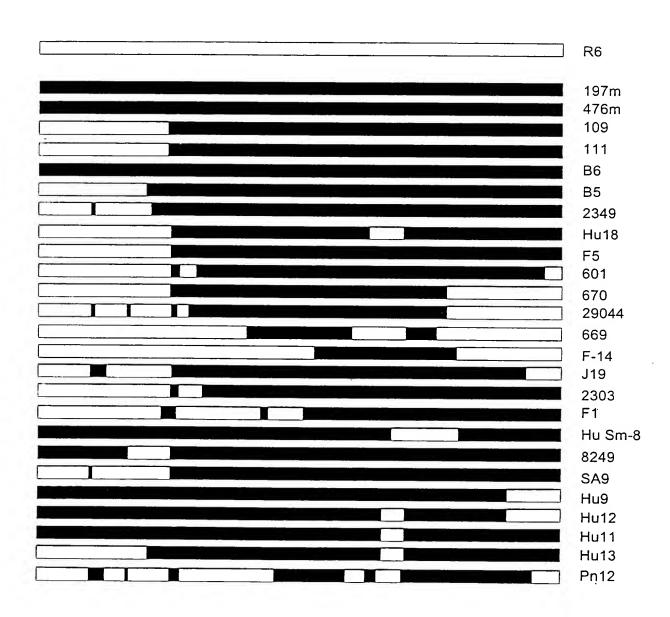


FIG. 1

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Grid example of an oligonucleotide array

1	2	3	4
5	6	7	8
I	II	III	IV

A (R6 = sensitive)

+	+	+	+
+	+	+	+
_	_	-	_

B (2349 - resistant, globally occurring clone)

+	-		-
_		-	-
+	+	+	+

C (J19 - resistant)

+	-	_	
_	_	_	_
+	+		+

D (Pn 12 - resistant, from Papua and unusual)

+	-	+	+
_	-	-	_
–	-	1	_

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INVENTOR(S): REGINE HAKENBECK

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PCR

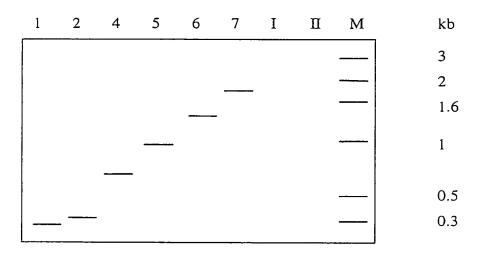


FIG. 3

INVENTOR(S): REGINE HAKENBECK

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00000000000000000000000000000000000000	'TCACT		
R6 USor 197wrm	476MIT BSMIT 2349 109 111NO U18	601 670 29044 R6 U11 U12 U12 U19 122 2302 2303 8249 Sa9 Pn12 U8mit B6mit 10712	CE CE
FIG. 4A	R6-U5OR-197MIT-476MIT- B5MIT-2349-109-111NO- U18-F5-601-670-29044- M3-10712 (8-96)	Vertical strain-designating numbers: first three numerals = codon last numeral: 1, 2 or 3 position within the codon	

INVENTOR(S): REGINE HAKENBECK ATTORNEY DOCKET NO: 012627-037

SHEET 5 of 37

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1111111111 11111111111 555666778 1231231231 GAAAAAACAC GGTTGGTT-			AAAAAACAC -GG-TT-G-	GG-TT-G- GG-TT-G- GG-TT-G-			GG-TT-G- GG-TT-G- GG-TT-G- GG-TT-G-
11111 11111 333444 23123 ACGTA -tt			 GTAG				
111111111 1111111111 10001112223 12312312312 124GATTCTTT 19-ta 1 TAC			 GATTCTT A				
1111111111 00000000111 777888999000 123123123123 GCAACGGGTAAG g-atag-t	1 1 1 1		 3CAACGGG				T T T T T T T T T - T T -
1111111 00000000 555667 1231231 1231231 AAGTCAG)		AAGTCA(1			
R6 USor 197MIT	B5MIT 2349 109	U18 F5 601	29044 R6 U11	U 1 2 2 2 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		2303 8249 Sa9	Pn12 U8mit B6mit 10712 M3

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TITLE: DNA PROBES, METHOD AND KIT FOR IDENTIFYING ANTIBIOTIC-RESISTANT STRAIN OF BACTERIA
INVENTOR(S): REGINE HAKENBECK
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TITLE: DNA PROBES, METHOD AND KIT FOR IDENTIFYING

ANTIBIOTIC-RESISTANT STRAIN OF BACTERIA

INVENTOR(S): REGINE HAKENBECK

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FIG. 4D

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ANTIBIOTIC-RESISTANT STRAIN OF BACTERIA

INVENTOR(S): REGINE HAKENBECK ATTORNEY DOCKET NO: 012627-037 APPLN. FILING DATE: OCTOBER 6, 2003

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ANTIBIOTIC-RESISTANT STRAIN OF BACTERIA

INVENTOR(S): REGINE HAKENBECK

ATTORNEY DOCKET NO: 012627-037 SHEET 9 of 37

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INVENTOR(S): REGINE HAKENBECK ATTORNEY DOCKET NO: 012627-037

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22222222 000000000 5556667778 1231231231 GAAATGAAG			
6 50R 97MI	476MIT B5MIT 2349 109 1111NO U18 F5 601	2302 R869 R111 R12 R12 R2302 R249	4 4 8 9 0 M

APPLN. FILING DATE: OCTOBER 6, 2003
TITLE: DNA PROBES, METHOD AND KIT FOR IDENTIFYING ANTIBIOTIC-RESISTANT STRAIN OF BACTERIA
INVENTOR(S): REGINE HAKENBECK

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APPLN. FILING DATE: OCTOBER 6, 2003

Inventor(s): Regine Hakenbeck Attorney Docket No: 012627-037

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TITLE: DNA PROBES, METHOD AND KIT FOR IDENTIFYING

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INVENTOR(S): REGINE HAKENBECK
ATTORNEY DOCKET NO: 012627-037 **SHEET 13 of 37**

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Inventor(s): Regine Hakenbeck Attorney Docket No: 012627-037 **SHEET 14 of 37**

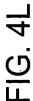
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FIG. 4K

INVENTOR(S): REGINE HAKENBECK

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INVENTOR(S): REGINE HAKENBECK

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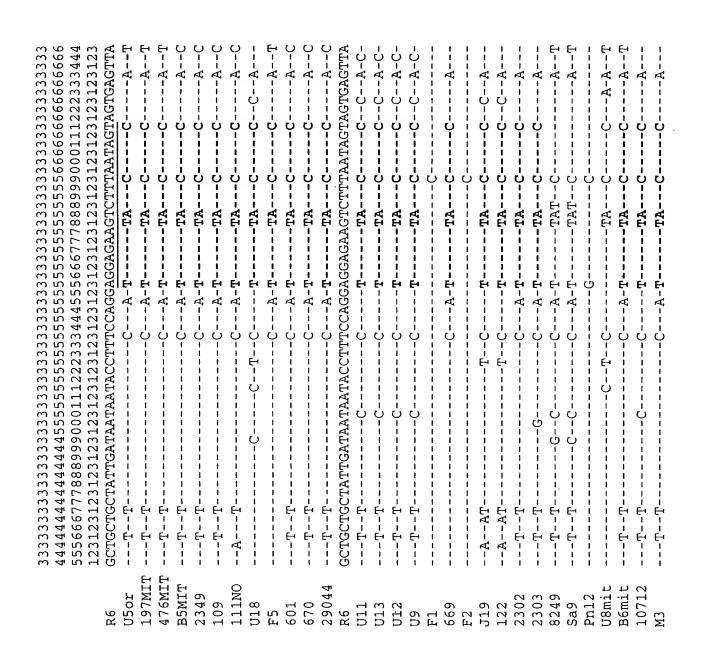
APPLN. FILING DATE: OCTOBER 6, 2003

TITLE: DNA PROBES, METHOD AND KIT FOR IDENTIFYING

ANTIBIOTIC-RESISTANT STRAIN OF BACTERIA

INVENTOR(S): REGINE HAKENBECK

ATTORNEY DOCKET NO: 012627-037 SHEET 17 of 37



APPLN. FILING DATE: OCTOBER 6, 2003
TITLE: DNA PROBES, METHOD AND KIT FOR IDENTIFYING

ANTIBIOTIC-RESISTANT STRAIN OF BACTERIA

INVENTOR(S): REGINE HAKENBECK

ATTORNEY DOCKET No: 012627-037 **SHEET 18 of 37**

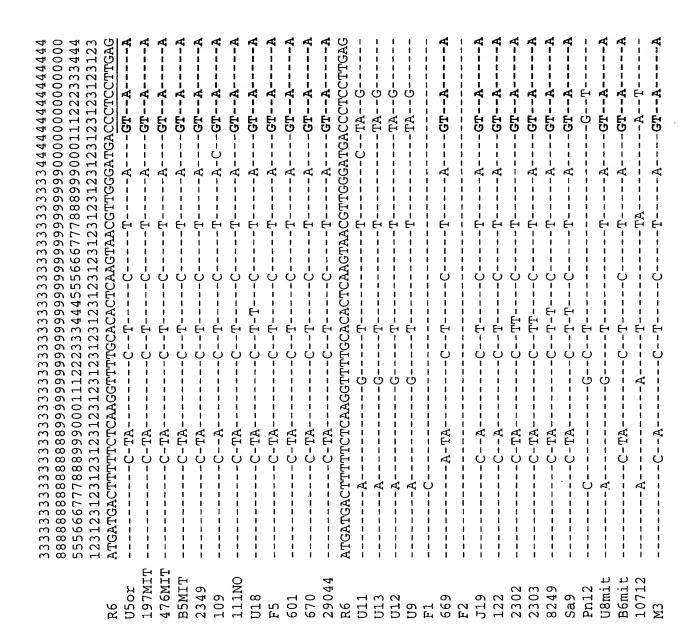
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TITLE: DNA PROBES, METHOD AND KIT FOR IDENTIFYING

ANTIBIOTIC-RESISTANT STRAIN OF BACTERIA

INVENTOR(S): REGINE HAKENBECK

ATTORNEY DOCKET NO: 012627-037 SHEET 19 of 37



TITLE: DNA PROBES, METHOD AND KIT FOR IDENTIFYING

ANTIBIOTIC-RESISTANT STRAIN OF BACTERIA

INVENTOR(S): REGINE HAKENBECK

ATTORNEY DOCKET NO: 012627-037 SHEET 20 of 37

CAAAAGATGGGAGATGCTACCTGGCTTGATTATCTTAATCGTTTTAAATTTTGGTGTTCCG CAAAAGATGGGAGATGCTACCTGGCTTGATTATCTTAATCGTTTTTAAATTTTGGTGTTCCG 5556667778889999000111222333444555666777888999000111222333444 G-G--A----T---A----G---T-G------A--C--C--T---T-G-----A--C--C--G-G--A----T---A----G---T-G----G-G--A----T---A----G---T-G-------W---------Y--------A--------B--------A--------Y------------A--G-G--A-----A---PIMT6. 476MIT **BSMIT** 111NO 29044 U8mit B6mit 10712 Pn12 2349 2302 8249 109 Sa9 601 U13 U12 U9 U9 F1 F5 **R6**

APPLN. FILING DATE: OCTOBER 6, 2003
TITLE: DNA PROBES, METHOD AND KIT FOR IDENTIFYING ANTIBIOTIC-RESISTANT STRAIN OF BACTERIA
INVENTOR(S): REGINE HAKENBECK
ATTORNEY DOCKET NO: 012627-037
SHEET 21 of 37 **SHEET 21 of 37**

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INVENTOR(S): REGINE HAKENBECK

ATTORNEY DOCKET No: 012627-037 **SHEET 22 of 37**

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INVENTOR(S): REGINE HAKENBECK ATTORNEY DOCKET NO: 012627-037

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INVENTOR(S): REGINE HAKENBECK ATTORNEY DOCKET NO: 012627-037

APPLN. FILING DATE: OCTOBER 6, 2003
TITLE: DNA PROBES, METHOD AND KIT FOR IDENTIFYING ANTIBIOTIC-RESISTANT STRAIN OF BACTERIA
INVENTOR(S): REGINE HAKENBECK
ATTORNEY DOCKET NO: 012627-037
SHEET 25 of 37 **SHEET 25 of 37**

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APPLN. FILING DATE: OCTOBER 6, 2003
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ANTIBIOTIC-RESISTANT STRAIN OF BACTERIA

INVENTOR(S): REGINE HAKENBECK

ATTORNEY DOCKET NO: 012627-037 **SHEET 26 of 37**

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APPLN. FILING DATE: OCTOBER 6, 2003
TITLE: DNA PROBES, METHOD AND KIT FOR IDENTIFYING ANTIBIOTIC-RESISTANT STRAIN OF BACTERIA
INVENTOR(S): REGINE HAKENBECK

ATTORNEY DOCKET NO: 012627-037 **SHEET 27 of 37**

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SHEET 28 of 37 ATTORNEY DOCKET NO: 012627-037

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INVENTOR(S): REGINE HAKENBECK

SHEET 29 of 37 ATTORNEY DOCKET NO: 012627-037

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APPLN. FILING DATE: OCTOBER 6, 2003
TITLE: DNA PROBES, METHOD AND KIT FOR IDENTIFYING

ANTIBIOTIC-RESISTANT STRAIN OF BACTERIA

INVENTOR(S): REGINE HAKENBECK ATTORNEY DOCKET NO: 012627-037 **SHEET 30 of 37**

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INVENTOR(S): REGINE HAKENBECK ATTORNEY DOCKET NO: 012627-037

SHEET 31 of 37

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Inventor(s): Regine Hakenbeck Attorney Docket No: 012627-037 **SHEET 32 of 37**

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INVENTOR(S): REGINE HAKENBECK

ATTORNEY DOCKET No: 012627-037 **SHEET 33 of 37**

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TITLE: DNA PROBES, METHOD AND KIT FOR IDENTIFYING

ANTIBIOTIC-RESISTANT STRAIN OF BACTERIA

INVENTOR(S): REGINE HAKENBECK

ATTORNEY DOCKET NO: 012627-037 SHEET 34 of 37

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TITLE: DNA PROBES, METHOD AND KIT FOR IDENTIFYING

ANTIBIOTIC-RESISTANT STRAIN OF BACTERIA

INVENTOR(S): REGINE HAKENBECK

ATTORNEY DOCKET No: 012627-037 **SHEET 35 of 37**

GAGACTGCTGAGACCCTTGCTAAGTGGCTCAATATAGAACTTGAATTTCAAGGCTCGGGC --G---T--A--T --G---T--A--T SAGACTGCTGAGACCCTTGCTAAGTGGCTCAATATAGAACTTGAATTTCAAGGCTCGGGC --G---T--A--T T--A--T --T--A--T T--A--T -T--A--T 555666777888999000111222333444555666777888999000111222333444 --T--A--T -----T-GG----T-G------A---T-GG----T--G--G-------T----GG----T-G----A---T-GG----T----G---A---T-GG----T----G----A---T-GG----C--G--G---T-GG----T-G---A---T-GG----T--G--G---A---T-GG----T---T-A------D-L---CA--C--A--AG-TT--T----------T---197MIT 476MIT **BSMIT** 111NO 29044 R6 U8mit B6mit 2349 8249 2302 2303 Pn12 U18 601 U11 U13 U12 U9 U9 F1

Inventor(s): Regine Hakenbeck Attorney Docket No: 012627-037 **SHEET 36 of 37**

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INVENTOR(S): REGINE HAKENBECK ATTORNEY DOCKET NO: 012627-037 **SHEET 37 of 37**

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